

September 12, 2012

Griff Miller
LT, US Public Health Service, detailed to EPA
Remedial Project Manager
RCRA Corrective Action - 3LC30
USEPA Region 3
1650 Arch St
Philadelphia PA 19103-2029

Re: Scope of Work for the former Lyondell Beaver Valley Site

Dear Mr. Miller:

On behalf of the Lyondell Environmental Custodial Trust (the "Custodial Trust"), ENVIRON International Corporation (ENVIRON) has prepared this scope of work (SOW) for the former Lyondell Chemical Company (Lyondell) Beaver Valley site (the "site") located at 400 Frankfort Road in Monaca, Potter Township, Beaver County, Pennsylvania.

SITE BACKGROUND

The site encompasses approximately 121.5 acres on the south bank of the Ohio River. Raccoon Creek and Poorhouse Run Creek flow through or bound portions of the site. ARCO Chemical Company (ACC), or its predecessors, owned and operated a manufacturing facility at the site from 1965 to 1996. In 1996, the site was divided and the portion containing the active manufacturing facility was sold to NOVA Chemical (NOVA). In 2000, Lyondell Chemical Company (Lyondell) purchased ACC, and the non-manufacturing portion of the site. On March 31, 2010 the United States Bankruptcy Court for the Southern District of New York entered an order in Case No. 09-10023 styled *In re: Lyondell Chemical Company, et al*, and established the Custodial Trust to own, remediate at the direction of the lead governmental agency, and sell, if possible, certain land that was formerly owned by Lyondell, including the site.

On October 20, 1997, PADEP and ACC entered into a Consent Order and Agreement (CO&A) for remediation under the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2). The site includes four of the six areas of concern (AOCs) identified in the CO&A. A brief description of each of the four AOCs is provided below:

East Landfill – Approximately 54 acres that contains eight former disposal areas; the sanitary landfill and lagoon (4.1 acres), the phosphate sludge landfill (2.2 acres), the latex landfill (1.4 acres), and the phosphate sludge dewatering areas (five areas totaling 2.2 acres). The area is currently grassland.

Raccoon Creek Disposal Area – Approximately 18 acres that contains two former fly ash disposal areas and four pits used for burning acid washings and distillation residues from benzene production and tars of polymeric residues from butadiene production. The area is currently grassland.

Phthalic Anhydride Area – Approximately four acres that was used from 1945 to 1962 to manufacture phthalic anhydride. All of the manufacturing buildings were demolished in the 1970's and the area is currently grassland.

West Landfill – Approximately 25 acres that consists of the West Landfill, Dravo Quarry, and Swamp/Pond areas. The West Landfill was used as the primary disposal area from about 1943 to

1972 and received acid washing and light oil residues from benzene production, styrene residues, waste polystyrene and expanded polystyrene beads, and toluene cleaning solution. The West Landfill area is currently grassland.

The June 2003 Environmental Indicator Inspection Report (2003 EI) prepared by Foster Wheeler on behalf of the U.S. Environmental Protection Agency (U.S. EPA) indicates that PADEP granted Act 2 releases from liability to Lyondell and approved the post-remediation care plans presented in the Final Reports for each AOC between 1998 and 1999. Lyondell reportedly completed the required post-remediation care activities. The 2003 EI report concluded that U.S. EPA Region 3 would decide if additional information or sampling at the facility was required to determine whether or not the environmental indicators had been met or if corrective action was required at the facility.

PROPOSED SOW TASKS

ENVIRON proposes the initial tasks listed below and described in more detail in the remaining sections of this report:

- Task 1: Stakeholder Meetings and Communication
- Task 2: Site Health and Safety Plan (HASP) Preparation
- Task 3: Site Survey
- Task 4: Response to the November 1, 2011 Notice of Violation (NOV) related to National Pollutant Discharge Elimination System (NPDES) Permit
- Task 5: Comprehensive Site Compliance Evaluation

Task 1 - Stakeholder Meetings and Communication

An initial meeting was held with the Custodial Trust, ENVIRON, and PADEP in 2011 that included an initial site visit, meeting with PADEP to discuss the site and anticipated scope of work for 2011, and an introduction to NOVA. A 2011 SOW was prepared in response to the outcome of the 2011 meeting with PADEP, but did not receive the required stakeholder approval due to the departure of the original project manager from PADEP. ENVIRON coordinated and attended a second meeting with the new project manager at PADEP on July 12, 2012 and also met with NOVA and a potential buyer at the site. A conference call with the ENVIRON, PADEP, and US Environmental Protection Agency (USEPA) Region 3 representatives was held on July 23, 2012. The SOW proposed herein was prepared in response to the outcome of the July meeting and conference call. An additional meeting including ENVIRON, PADEP, U.S. EPA and the Custodial Trust is anticipated for fall 2012. This task includes ENVIRON's coordination and attendance at the above-listed meetings and conference calls and preparation of related communication.

Task 2 - Site HASP Preparation

A HASP will be prepared for the site that provides an assessment of the risk posed by the field activities described in this letter and properly addresses the management of the identified risks. A copy of the HASP will be kept at ENVIRON's Chicago, Illinois office for review and reference during all site activities. Prior to the commencement of any field activity at the site, the contents of the HASP will be communicated to ENVIRON employees, contractors, subcontractors, and visitors who are present during any portion of the activities.

Task 3 - Site Survey

ENVIRON will have a current survey of the site prepared based on the quitclaim deed provided by the Custodial Trust. The survey will be conducted in the late fall or early winter 2012, prior to the Comprehensive Site Compliance Evaluation task described below.

Task 4 - Response to the November 1, 2011 NOV related to the NPDES Permit

Lyondell submitted a letter to PADEP on February 28, 2007 indicating that they intended to let their NPDES permit expire on September 15, 2007, since discharges of storm water to the Ohio River through the outfalls were unlikely. No response from PADEP was identified in the files provided to ENVIRON and Lyondell informed the Trust that the permit had expired without renewal. Subsequently, the Custodial Trust received a NOV for discharging without a permit dated November 1, 2011. In response to the NOV, ENVIRON prepared a Notice of Intent for renewal of permit number PAR236125 dated February 13, 2012. Quantitative data from each outfall was requested from PADEP in an Administrative Incompleteness letter dated February 16, 2012. ENVIRON sampled the discharge from Outfall No. 024 on March 21, 2012, analyzed the results for the parameters required of the expired permit (Appendix J), and reported the results to PADEP on April 13, 2012. Neither discharge nor any evidence of recent water discharge was observed from Outfall No. 023 on March 21, 2012. On June 21, 2012, PADEP sent a Technical Deficiency Letter to the Custodial Trust noting some easily addressed administrative issues and requiring that storm water be collected from each outfall and analyzed for an expanded list of parameters required for landfills (Appendix C), and a response be submitted within 90 days. ENVIRON has requested an additional 90 days to respond to the Technical Deficiency Letter by electronic mail to PADEP, but intends to sample the outfalls if a representative rain event occurs within that timeframe.

ENVIRON will also update the Preparedness, Prevention and Contingency Plan (PPC) Plan in accordance with Part C.3.a of *PAG-03 Authorization to Discharge Under the NPDES General Permit for Discharges of Stormwater Associated with Industrial Activities* (the "General Permit"). Additional compliance monitoring and reporting will be proposed in 2013 if a NPDES permit is determined to be necessary for the site moving forward.

Task 5 - Comprehensive Site Compliance Evaluation

In consideration of the requirements of Part C.3.c of the General Permit, the results of site inspections performed on behalf of Lyondell, and discussions with PADEP and USEPA; a Comprehensive Site Compliance Evaluation is proposed for completion in late fall or early winter 2012. The evaluation will include the tasks below:

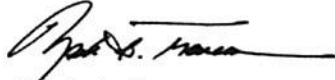
- Inspection of the NPDES permitted outfalls;
- Evaluation of the existing fencing, gates, and warning signs for areas requiring maintenance or replacement;
- Observation of the landfill covers for areas of erosion or other similar damage which might require maintenance;
- Inspection of the eroded bank of Poorhouse Run Creek and measurement of the exposed portion of the monitoring site, if present;
- Evaluation of adequacy of site vegetative cover and documentation of stressed vegetation;
- Evaluation of site roads for any necessary maintenance and access issues;
- Evaluation of accessibility, presence, and condition of the existing monitoring wells identified by USEPA for groundwater monitoring; and
- Evaluation of ability to use upstream public boat ramp and site bridges for future surface water sampling.

An Annual Inspection Form will be completed in accordance with Part C.3.c(3) of the General Permit and the PPC plan will be updated, if necessary, as required under Part C.3.c(2). A summary letter

will be prepared and provided to USEPA that includes the results of the evaluation and a forward looking schedule for additional site work and maintenance tasks.

Please contact either of the undersigned with any questions concerning this SOW.

Regards,



Mark A. Travers
Principal



Lisa D. Krogman
Senior Manager

cc: Lyondell Environmental Custodial Trust
Oscar Vazquez – PADEP Waste Management